CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/W.No.11/BE/CEMENT/2012-13

Date: 22.03.2013

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	:	**M/s. Benaka Enterprises**, Contractor, Bangalore.
NAME OF THE WORK	:	Improvements to roads and drains in Chikkabettahalli Slum and MS Palya areas in Ward No. 11, Kuvempunagara (Change of place: Doddachannappa Layout Samudaya Bhavana Road), BBMP, Bangalore.
REFERENCE	:	AEE/Vidyaranyapura/PR/445/2012-13 Dated: 20.03.2013
SAMPLE ID	:	CEMENT
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-1989
1	a) Initial Setting Time	IS-4031 (Part -5)	172 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	493 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm
3	Standard Consistency	IS-4031 (Part -4)	30.00 %	-

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22/3/13

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು,
ವಿದ್ಯಾರಣ್ಯಪುರ ಉಪ ವಿಭಾಗ,
ಯಲಹಂಕ ವಲಯ,
ಬೃ. ಬೆಂ. ಮ. ಪಾ., ಬೆಂಗಳೂರು-97

M/s. Civil-Tech Consultants & Engineers
23/14, 7th Cross, 3rd Stage,
4th Block, Shakthi Ganapathi Nagara,
Basaveshwaranagar,
Bangalore - 560 079

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Job No.: CTCE/BBMP/W.No.11/BE/SAND/2012-13 : 22.03.2013

TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **M/s. Benaka Enterprises,** Contractor, Bangalore.

Name of Work : Improvements to roads and drains in Chikkabettahalli Slum and MS Palya areas in Ward No. 11, Kuvempunagara (Change of place: Doddachannappa Layout Samudaya Bhavana Road), BBMP, Bangalore.

Reference : AEE/Vidyaranyapura/PR/445/2012-13 Dated: 20.03.2013

Date of Testing : 22.03.2013

Material : Sand Total Wt. of Aggregates in gms **2000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	79	3.95	3.95	96.1	90-100
2.36	212	10.60	14.55	85.5	75-100
1.18	415	20.75	35.30	64.7	55-90
600 Micron	537	26.85	62.15	37.9	35-59
300 Micron	423	21.15	83.30	16.7	8-30
150 Micron	212	10.60	93.90	6.1	0

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M/s. Civil-Tech Consultants & Engineers
23/14, 7th Cross, 3rd Stage,
4th Block, Shakthi Ganapathi Nagara
Basaveshwaranagar,
Bangalore - 560 079

22/3

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagara, Bangalore-79.
Tele fax : 23223227, Cell : 93428 39190, Website : www.civiltechconsultants.com
e-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.11/BE/AGG/2012-13 : 22.03.2013

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **M/s. Benaka Enterprises,** Contractor, Bangalore.

Name of Work : Improvements to roads and drains in Chikkabettahalli Slum and MS Palya areas in Ward No. 11, Kuvempunagara (Change of place: Doddachannappa Layout Samudaya Bhavana Road), BBMP, Bangalore.

Reference : AEE/Vidyaranyapura/PR/445/2012-13 Dated: 20.03.2013

Date of Testing : 22.03.2013

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **25000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	982	3.93	3.93	96.07	95-100
20	16246	64.98	68.91	31.09	30-70
10	5034	20.14	89.05	10.95	10-35
4.75	2424	9.70	98.74	1.26	0-5

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Civil-Tech Consultants & Engineers Bangalore

M/s. Civil-Tech Consultants & Engineers
23/14, 7th Cross, 3rd Stage,
4th Block, Shakthi Ganapathi Nagara,
Basaveshwaranagar,
Bangalore - 560 079

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Job No.: CTCE/BBMP/W.No.11/BE/STEEL/2012-13 23.03.2013

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	:	**M/s. Benaka Enterprises**, Contractor, Bangalore.
Name of the Work	:	Improvements to roads and drains in Chikkabettahalli Slum and MS Palya areas in Ward No. 11, Kuvempunagara (Change of place: Doddachannappa Layout Samudaya Bhavana Road), BBMP, Bangalore.
Reference	:	AEE/Vidyaranyapura/PR/445/2012-13 Dated: 20.03.2013
Date of Test	:	23.03.2013
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	8	0.40	513	547	12.90	O.K	O.K
2	10	0.62	518	550	13.05	O.K	O.K

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23/14, 7th Cross, 3rd Stage,
4th Block, Shakthi Ganapathi Nagara,
Basaveshwaranagar,
Bangalore - 560 079

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagara, Bangalore-79.
Tele fax : 23223227, Cell : 93428 39190, Website : www.civiltechconsultants.com
e-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.11/BE/CUBE/2012-13 25.04.2013

TEST REPORT ON CONCRETE CUBES

Client	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	: **M/s. Benaka Enterprises,** Contractor, Bangalore.
Name of the work	: Improvements to roads and drains in Chikkabettahalli Slum and MS Palya areas in Ward No. 11, Kuvempunagara (Change of place: Doddachannappa Layout Samudaya Bhavana Road), BBMP, Bangalore.
Reference	: AEE/Vidyaranyapura/PR/445/2012-13 Dated: 20.03.2013
Sample ID	: RCC Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	28.03.2013	25.04.2013	8.135	471.8	20.97
2	28.03.2013	25.04.2013	8.249	485.7	21.59
3	28.03.2013	25.04.2013	8.367	499.8	22.21

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M/s. Civil-Tech Consultants & Engineers
23/14, 7th Cross, 3rd Stage,
4th Block, Shakthi Ganapathi Nagara
Basaveshwaranagar,
Bangalore - 560 079

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagara, Bangalore-79.
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Job No.: CTCE/BBMP/W.No.11/BE/CUBE/2012-13 08.05.2013

TEST REPORT ON CONCRETE CUBES

Client	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	: **M/s. Benaka Enterprises,** Contractor, Bangalore.
Name of the work	: Improvements to roads and drains in Chikkabettahalli Slum and MS Palya areas in Ward No. 11, Kuvempunagara (Change of place: Doddachannappa Layout Samudaya Bhavana Road), BBMP, Bangalore.
Reference	: AEE/Vidyaranyapura/PR/445/2012-13 Dated: 20.03.2013
Sample ID	: Road Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	10.04.2013	08.05.2013	8.218	479.5	21.31
2	10.04.2013	08.05.2013	8.364	496.8	22.08
3	10.04.2013	08.05.2013	8.459	515.7	22.92

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Basaveshwaranagara
Bangalore - 560 079

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